

REMARKS

With entry of the amendment, claims 44-82 are pending. Claims 55-57, 59, and 71 are withdrawn from consideration, and claims 44-54, 58, and 60-70, and 72-82 are under consideration and rejected, as summarized below.

Claim 66 has been amended to include the language of claim 44. Support for the amendment to claim 66 can be found at least at p. 8, lines 23-26, Example 1, p. 24-p. 25; Example 2, p. 25-p. 26, and Example 7, p. 32-p. 33.

Withdrawn rejections

The Examiner has withdrawn the rejection of claims 44-47, 49-52, 45, 55, 58-65, and 68-74 under 35 USC 102(b) as being anticipated by Smith et al. (WO 98/31840) and the rejection of claims 44-52, 54, 55, and 58-68 under 35 USC 103(a) as being unpatentable over Kleiber (WO 96/41811) in view of Huber (1993 Nuc. Acids. Res. 21:1061-1066), as evidenced by Vogelstein (1979 PNAS 76:615-619).

Rejections under 35 USC 112, first paragraph, written description

Claims 76 and 81 are rejected as failing to comply with the written description requirement because they purportedly contain new matter.

Claim 76 is directed to a kit for performing the method of claim 66. Support for claim 76 can be found at least at page 23, line 20-page 24, line 2.

Claim 81 is directed to a method in which DNA is isolated in a concentration of from about 0.5 ng/ μ l to about 5 ng/ μ l and used in a DNA amplification reaction. The specification discloses at page 25, lines 33-39 that one microliter of a DNA sample was used in an amplification reaction in accordance with the manufacturer's instructions. It also discloses that the manufacturer recommends using from about 0.5 to about 5 ng DNA. One of skill in the art would understand that, if one microliter of a DNA sample is used in an amplification reaction in accordance with the manufacturer's instructions, which include a recommendation to use from 0.5 to 5 ng DNA, the DNA sample would have a concentration of from about 0.5 ng/ μ l to about 5 ng/ μ l. Thus, the amendment is fully supported by the specification and introduces no new matter.

Accordingly, Applicant requests withdrawal of the rejection.

Maintained rejections under 35 USC 102(b)

Claims 66 and 67 are rejected under 35 USC 102(b) as being anticipated by Smith et al. (WO/98/31840). Applicants respectfully disagree with the Examiner's position, but nevertheless have amended claim 66 consistent with claim 44, which the Examiner has acknowledged is not anticipated by Smith et al.

In view of the foregoing, the rejection of claims 66 and 67 should be withdrawn.

New rejections under 35 USC 102(b)

Claims 44, 45, 50, 53, 66, 67, and 82 are rejected under 35 USC 102(b) as being anticipated by Melzak et al. (1996 J. Colloid and Interface Sci. 181:635-644), as evidenced by information available at <http://seq.yeastgenome.org/>. It is unclear why the yeast genome reference, which provides the sequence of the plasmid pUC18, was cited, or what it is intended to evidence.

Melzak et al. is characterized as reporting a study of the dominant driving forces involved in DNA adsorption to silica in perchlorate solutions. The Examiner points to Fig. 3b, which he characterizes as showing "closed circle data points" forming a saturation curve, with saturation occurring at a concentration of about 4 µg/m, and quantitative desorption of pUC18. The Examiner also cited Melzak as teaching various other features, such as the specific surface area of the particular silica employed in the studies, the amount of DNA bound per unit of surface area, which features are not relevant to the claimed invention.

Melzak et al. is concerned strictly with studying the behavior of DNA in its adsorption to silica. Melzak et al. is not concerned with isolating consistent amounts of DNA from multiple samples having DNA in excess of the binding capacity; rather, the research described in Melzak et al. was undertaken to study the "dominant driving forces involved in DNA adsorption to silica in perchlorate solutions." As such, Melzak et al. is merely cumulative and does not teach anything beyond the teachings of Smith et al.

Accordingly, Applicants traverse the rejection.

Rejections under 35 USC 103(a)

Claims 44-54, 58, 60-68, and 77-82 are rejected under 35 USC 103(a) as being unpatentable over Melzak et al. in view of Kleiber et al. Claims 69, 70, and 72-76 are rejected

under 35 USC 103(a) as being unpatentable over Melzak et al. in view of Kleiber et al. further in view of Ryder et al. (US Patent No. 5,639,599).

Melzak et al. is relied on for the reasons provided in the rejection under 35 USC 102(b). Kleiber et al. is cited for the same reasons provided in the last Office action in the rejection that the Examiner indicated was withdrawn, except that Kleiber et al. is no longer relied on as teaching contacting each of multiple samples with a discrete amount of silica-containing solid support under conditions that allow reversible binding of the defined amount of DNA to the solid support. Ryder et al. was cited as teaching kits containing ferric iron complexing agents for nucleic acid isolation. It is unclear how the interference of ferric ions in downstream applications, or the solution provided by Ryder et al., has any bearing on the patentability of the claims. As noted above, Melzak et al. adds nothing over the art of record and is merely cumulative.

Accordingly, Applicants traverse the rejection.

CONCLUSIONS

Applicants request withdrawal of all rejections and allowance of the claims.

Applicants submit herewith a Notice of Appeal, accompanied by the requisite fee.

No other fee is believed due in connection with this submission. However, if any additional fee is owed, please charge Deposit Account No. 50-0842 for such fee.

Respectfully submitted,



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